AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing of claims in the application:

Claim 1 (Currently Amended) A method for determining the rate of the first arm of reverse cholesterol transport in a living ~~system~~ animal, said method comprising:

a) administering one or more isotopically labeled cholesterol molecules, isotopically labeled cholesterol molecules in high density lipoprotein (HDL) particles, or isotopically labeled cholesterol precursors to the living ~~system~~ animal for sufficient time to achieve or calculate a steady state isotopic content, enrichment or specific activity of labeled cholesterol;

b) obtaining one or more isotopically labeled cholesterol molecules from plasma or plasma HDL in the living ~~system~~ animal;

c) measuring isotopic content, isotopic pattern, rate of change of isotopic content, or rate of change of isotopic pattern of the isotopically labeled cholesterol molecules; and

d) calculating the rate of dilution by endogenous unlabeled cholesterol of the administered isotopically labeled cholesterol molecules, isotopically labeled cholesterol molecules in high density lipoprotein (HDL) particles, or isotopically labeled cholesterol precursors to determine the rate of the first arm of reverse cholesterol transport in the ~~system~~ animal.

Claim 2 (Currently Amended) A method of determining the rate of the second arm of reverse cholesterol transport, said method comprising:

a) determining the rate of the first arm of reverse cholesterol transport according to claim 1;

b) administering one or more isotopically labeled bile acids to the living ~~system~~ animal, wherein:

i) the isotopically labeled bile acid is administered in a different manner than the labeling pattern of said one or more isotopically labeled high density lipoprotein (HDL) particles, isotopically labeled cholesterol molecules, or isotopically labeled cholesterol precursors; or

ii) the isotope label of said isotopically labeled bile acids is different than the isotope label of said one or more isotopically labeled high density lipoprotein (HDL) particles, isotopically labeled cholesterol molecules, or isotopically labeled cholesterol precursors;

c) obtaining one or more bile acids from the living ~~system~~ animal;

d) measuring isotopic content, isotopic pattern, rate of change of isotopic content, or rate of change of isotopic pattern of the one or more bile acids; and

e) calculating the molecular flux rate of converting the cholesterol in plasma HDL to bile acid to determine the rate of second arm of reverse cholesterol transport in the living ~~system~~ animal.

Claim 3 (Original) The method of claim 2, wherein labeled bile acids are selected from the group consisting of cholic acid, chenodeoxycholic acid, deoxycholic acid, and lithocholic acid.

Claim 4 (Original) The method of claim 3, wherein the bile acid is cholic acid.

Claim 5 (Original) The method of claim 2, wherein the isotope label of the one or more isotopically labeled bile acids is ^{2}H, ^{3}H, ^{13}C, ^{14}C, or ^{18}O.

Claim 6 (Original) The method of claim 5, wherein the isotope label is ^{2}H.

Claim 7 (Currently Amended) The method of claim 1, wherein one or more isotopically labeled HDL particles are administered to the living ~~system~~ animal.

Claim 8 (Currently Amended) The method of claim 7, wherein the one or more isotopically labeled HDL particles are formed *ex vivo*.

Claim 9 (Original) The method of claim 1, wherein the one or more isotopically labeled HDL particles are administered by intravascular infusion.

Claim 10 (Currently Amended) The method of claim 1, wherein the living ~~system~~ animal is a ~~human~~ mammal.

Claim 11 (Currently Amended) The method of claim ~~1~~10, wherein the living ~~system~~ mammal is a rodent.

Claim 12 (Original) The method of claim 1, wherein the isotopically labeled cholesterol molecules are cholesterol esters.

Claim 13 (Previously presented) The method of claim 1, wherein the plasma or plasma HDL is obtained from a biological sample selected from the group consisting of blood, urine, feces, and a combination thereof.

Claim 14 (Previously presented) The method of claim 1, wherein the isotopic content, isotopic pattern, rate of change of isotopic content, or rate of change of isotopic pattern of the cholesterol molecules is determined by a method selected from the group consisting of mass spectroscopy, NMR spectroscopy, and liquid scintillation counting.

Claim 15-26 (canceled)

Claim 27 (New) The method of claim 10 wherein the mammal is a human.

Claim 28 (New) The method of claim 1, wherein the isotope label of the one or more isotopically labeled cholesterol molecules, isotopically labeled cholesterol molecules in high density lipoprotein (HDL) particles, or isotopically labeled cholesterol precursors is ^{2}H, ^{3}H, ^{13}C, ^{14}C, or ^{18}O.

Claim 29 (New) The method of claim 28, wherein the isotope label is ^{2}H.

Claim 30 (New)The method of claim 28, wherein the isotope label is ^{3}H.

Claim 31 (New) The method of claim 28, wherein the isotope label is ^{13}C.

Claim 32 (New) The method of claim 28, wherein the isotope label is ^{14}C

Claim 33 (New) The method of claim 28, wherein the isotope label is ^{18}O.